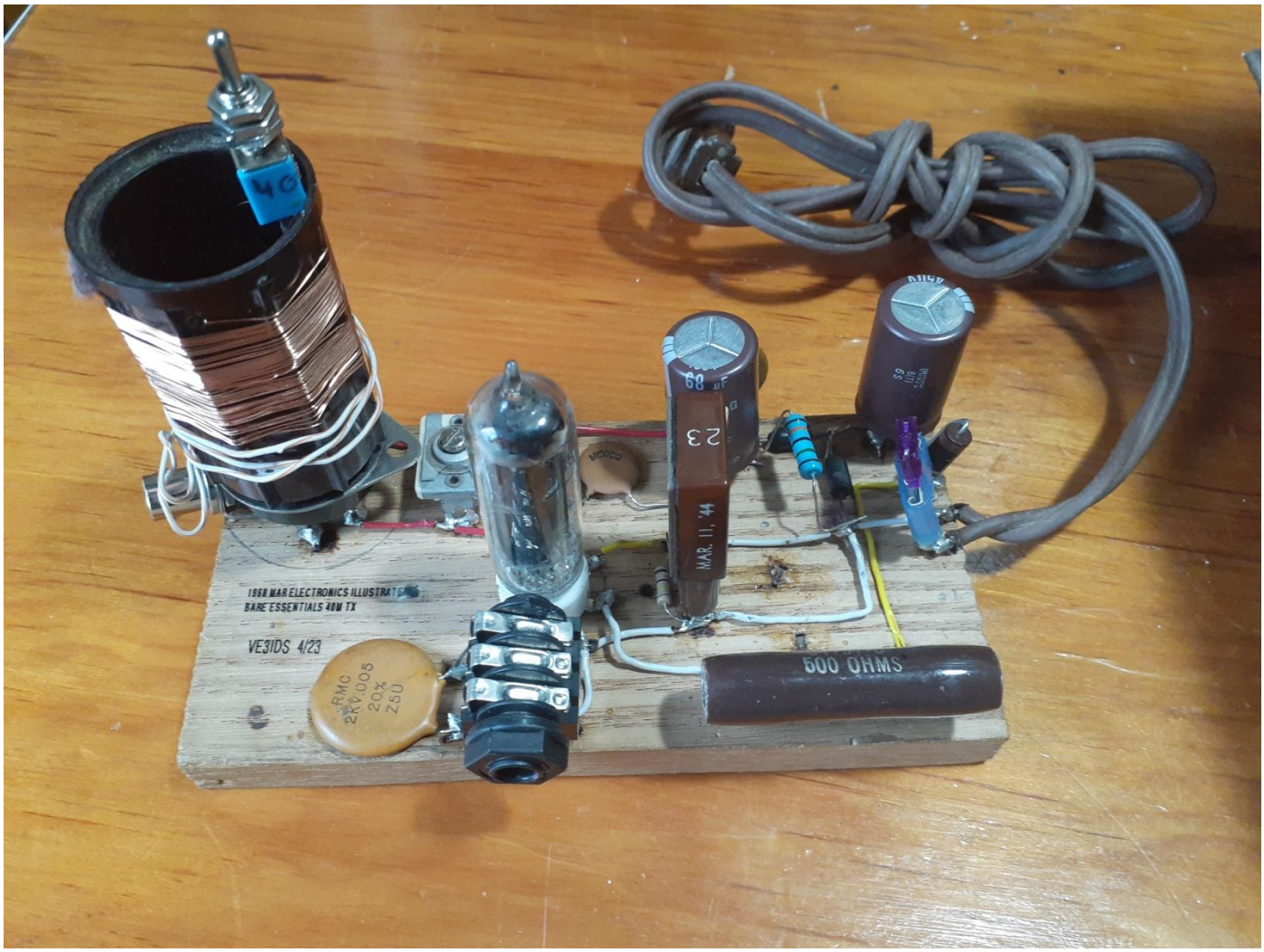
# Flying Pigs QRP Club
# Bacon Bits Quarterly

Flying Pigs QRP Club International, W8PIG
1900 Pittsfield St, Kettering, Ohio 45420
E-mail: n8ie@n8ie.com Web Page: https://fpqrp.org/

FPQRP membership is open to all licensed QRP operators who reside within 12,000 nautical miles of Cincinnati, Ohio.




## October 2024

## From the Editor

Welcome to the October 2024 issue of the ***Bacon Bits Quarterly Newsletter***!

I am requesting your input for the next issue of the BBQ. The due date for your articles is January 7, 2025. I prefer to receive your contributions in the following formats if possible: .doc, .pdf, .jpg, .txt, or .odt.

Your articles can be about outings you've had, projects you're working on, antennas are always a great topic, SOTA/POTA/WWFF adventures, just about anything amateur radio related with a slant toward QRP.

Please send your contributions to editor@fpqrp.org

I look forward to receiving your articles and thanks for your support!

73,
O. Alan Jones
N8WQ
FP#-4371

## Cover Photo Spotlight

Don Richards, VE3IDS provided the cover photo for this month's issue of the BBQ.

## Flying Pig T-Shirt or Hoodie

Ok everyone….if you want a T-Shirt or a Hoodie…this is the place.

Order online, pay online, send nothing to me….

https://ourladysmantleshop.com/collections/flying-pig-shirts

They have agreed to do onesie orders for us, and not charge us for a bulk printing. The Logo is something that N8IE cooked up for us back in the early days, so it is vintage.

72 es OO
de KB9BVN


# Adventures with the KH-1

Over the weekend I was able to get out and do some hiking and while hiking, I was able to take advantage of an activation of the nature preserves I was at. On Saturday I walked the trail at Hall Woods known as KFF-4202 in the WWFF database. On this hike I decided to use the KX2 and setup the MA-12 portable vertical antenna and I had a great activation using morse code.

The night before, we had very bad winds and the trails were cluttered with down trees and limbs. Nothing was so bad that I could not get around it on my hike. I found my usual spot and the ground was very slick and wet, so I mounted on a tree trunk instead of going down to my usual boulder to sit on.


After the bands dried up, I noticed it was still early in the day so I moved onto the next trail that is not far away. The Big Walnut Nature Preserve, known as KFF-4168, is minutes away from Hall Woods. Big Walnut has more trails and land available for exploring. During this trip I decided to take the KH-1 and use it pedestrian portable. This trail was also full of down trees but only one that concerned me. I stopped operating and put the radio away before climbing over this large tree, and at my age it felt like an "adventure in itself", but I am sure my kids would think its child's play.

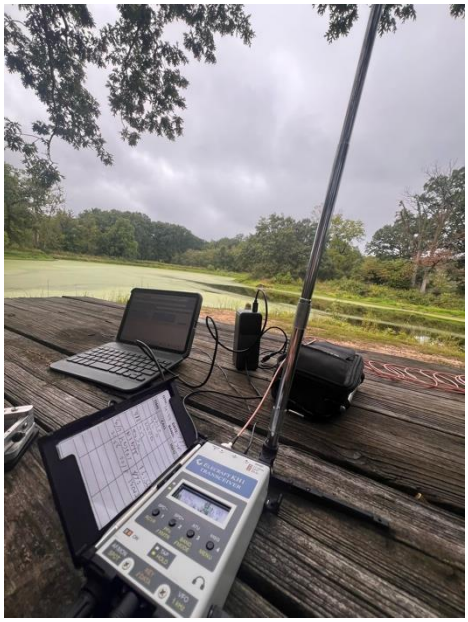
I managed to get a little over 20 QSO's while hiking with the KH-1. Near the end of my hike, the key I had started to loosen up. I built it from a kit and so I can only blame myself for it loosening. I switched to straight key mode and the

key still functioned enough to get a few of the last QSOs done. I was annoyed and when I got back to my car, I was able to adjust the key and get it back in shape for the next adventure.

The key I built was created by KM4CFT and took a few minutes to build. It is a huge improvement over the key that was shipped with my KH-1 even though it is much larger. I find that I do not hit the frequency knob as often and get off frequency. I think this key has a little room for improvement, but it is early in time for KH-1 accessories. I think the key that I have is already a second edition.

Today I found myself exploring new parts of the Deer Creek Fish and wildlife area, known as KFF-4194 in the WWFF database. The fish and wildlife area is large and surrounds the Putnam Prison. It is always smart to keep this in mind


when exploring an area next to a prison. An escape is not common but be aware that any random you meet in this remote area could be on the run and desperate. I do not have to worry about this at most parks and nature preserves, but I always think of the oddest stuff. Maybe it is part of being alone in nature that makes the mind wonder and think of these crazy things.



I usually embark to a small lake or pond on the Deer Creek property. It has a nice picnic table and a wonderful view, but I decided to explore another entrance onto the property. I am glad I did. The most western part of the fish and wildlife area has a very nice trail and a wonderful view of nature. As I started to hike I came across some busy bee's doing the work they are meant to do and could smell the wildflowers in the air. The parking lot itself had some heavy equipment parked on it, and I am hoping that it is just storage and they do not plan to rip this beautiful area up. This area is often occupied by hunters and the pond I spoke of before often has people fishing. There is more to nature than just radio right?



When I started to call CQ it did not take long for the QSOs to flow in. I had pileups more than once. I worked stations across the US on 20m. I tried to work 15m and 30m as well but I did not have much luck. Walking while the beacon is calling CQ is not hard but responding in motion takes a little more effort. I often just stopped walking and worked the QSO or multiple QSOs and took the time to write the QSO down onto the paper sheets. I normally log into an iPad or iPhone but when using the KH-1 it would need an extra hand or two to help with that.

Some oddities I must deal with while operating this way is that fact that sometimes the key can get a mind of its own, I may have need to tighten things up. Also, it is easy to hit the frequency knob by mistake and the beacon is not aware that the frequency changes, so it just keeps sending. I have on a few occasions' switched frequencies and not noticed. This might be why earlier on, I felt like I was not getting the QSOs like I should, I was moving and didn't always notice right away.

A very nice feature of the KH-1 is the built in clock and the lightweight battery that seems to last and last for hours on end.

Overall, this is my favorite way of operating. I have also done in motion activations using my mountain topper and it works too, but the KH-1 really simplified the experience of operating pedestrian portable. One notable QSO I made on my trip to KFF-4194 is to KM4CFT the designer of the key I mentioned above. It is the first CW QSO I have had with Jonathan and hope for many more QSO's to come.

| Sent | Receive | Callsign | QsoDate | Band | Mode | Comment |
|---|---|---|---|---|---|---|
| Requested | Requ... | KM4CFT | 9/29/2024 15:21:00 | 20m | CW | KFF-4194 |

I hope to find the rest of you on the air on my next activation and if you are into paper QSL cards, please send me a QSO for our conversation even if it was not a park activation QSO.

73 and stay adventurous and active while being radioactive in our community DE AC9HP

# Bare Essentials Transmitter
# Don Richards, VE3IDS

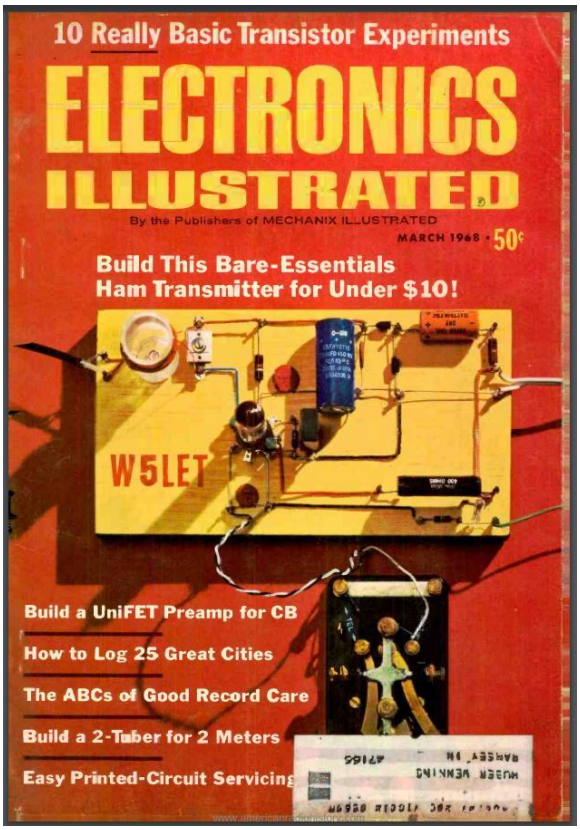
Here is a low cost fun transmitter that actually works. It is a one tube crystal controlled rig that will output a few watts. The 50C5 tube is very common as it is the audio output tube from a AA5 ( all American 5 ) receiver. They were common as dirt in the sixties. They were in low cost transformer less table radios that were in most homes. The 50C5 tube likely will be available at a local ham flea market but can be bought online at a premium. You might even find an old 5 tube AA5 receiver at a thrift store or yard sale for a few bucks.

The chassis is just a scrap of wood. You can use nails as solder points. I used narrow staples from a cable stapler. I separated the 80 meter coil winding to use either one section for 40 meters or use the added miniature toggle switch to use the total winding for 80 meters rather than plugging in separate coils. You can find crystals at hamfests or try Earl at Netty electronics.

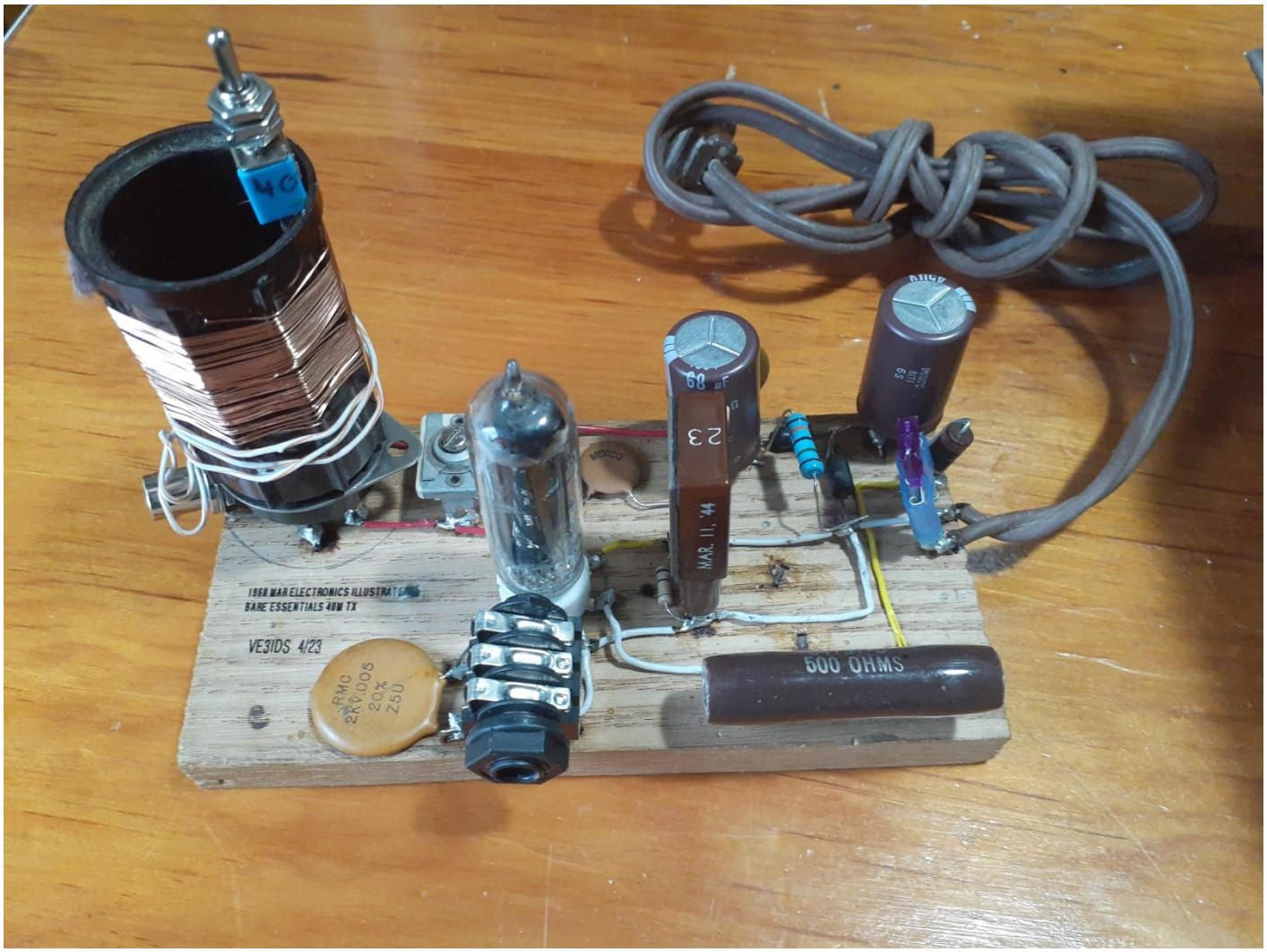
I have had nice fun QSOs with this little rig and the note is quite good for a crystal rig. There is just enough vintage note to it that you may get a reply from an OP wanting to find out what vintage gear you are running.

This is a tube rig so high voltages are present. If you are new to tubes, be aware that voltages up to 350 VDC are present. Reviewing high voltage tube safety practices in a radio amateur's handbook is a great idea.

Have fun!
72 Don VE3IDS OO




[Electronics-Illustrated - March 1968]




VE3IDS's Bare Essential Transmitter


From Contest Admin Secret HQ:
Brian Murrey KB9BVN
FP-57

**Calling all Flying Pigs!! Calling all Flying Pigs!!**

Gang, the monthly Run for the Bacon Sprint is so much fun, and the band conditions are PERFECT for QRP, so why not join the flock and have a blast with us? It's easy! Here is a listing of upcoming events through December 2024.

**DAYLIGHT SAVINGS TIME ENDS ON NOVEMBER 3RD. ALL TIMES LISTED ARE UTC.**

October 20th st - Run for the Bacon CW Sprint (2 Hours) 23:00Z to 01:00Z – Use the Auto logger.
November 17th - Run for the Bacon CW Sprint (2 Hours) 23:00Z to 01:00Z – Use the Auto logger.
December 15th - Run for the Bacon CW Sprint (2 Hours) 23:00Z to 01:00Z – Use the Auto logger.

RFTB Autologger is at https://qrpcontest.com/pigrun/

ALSO…for you Flying Pigs new to CW, or old to CW and want to participate in a slow code sprint event, we have the 40m Walk for the Bacon Slow Code CW Sprint. The WFTB sprints are 1 hour each night.

40m WFTB runs on the first Wednesday and Thursday of every month. The Wednesday night sprint begins at 00:00Z Wednesday evening for 1 hour from 00:00Z to 01:00Z, then it continues Thursday night from 02:00Z to 03:00Z. All logging is done on the autologger.

Evening of Wednesday October 2nd at 00:00Z to 01:00Z on 40m 7050 Khz to 7065 Khz.
Evening of Thursday October 3rd at 02:00Z to 03:00Z on 40m. 7110 to 7115 Khz

Evening of Wednesday November 6th at 00:00Z to 01:00Z on 40m 7050 Khz to 7065 Khz.
Evening of Thursday November 7th at 02:00Z to 03:00Z on 40m 7110 to 7115 Khz .

Evening of Wednesday December 4th at 00:00Z to 01:00Z on 40m 7050 Khz to 7065 Khz.
Evening of Thursday December 5th at 02:00Z to 03:00Z on 40m 7110 to 7115 Khz.

WFTB 40m logger is at: https://qrpcontest.com/pigwalk40/

20m WFTB runs on the third Wednesday and Thursday of every month. The Wednesday night sprint begins at 00:00Z Wednesday evening for 1 hour from 00:00Z to 01:00Z, then it continues Thursday night from 02:00Z to 03:00Z. All logging is done on the autologger.

Evening of Wednesday October 16th at 00:00Z to 01:00Z on 20m 14061 Khz to 14065 Khz.
Evening of Thursday October 17th at 02:00Z to 03:00Z on 20m 14061Khz to 14065 Khz.

Evening of Wednesday November 20th at 00:00Z to 01:00Z on 20m 14061 Khz to 14065 Khz.
Evening of Thursday November 21st at 02:00Z to 03:00Z on 20m 14061 Khz to 14065 Khz.

Evening of Wednesday December 18th at 00:00Z to 01:00Z on 20m 14061 Khz to 14065 Khz.

Evening of Thursday December 19th at 02:00Z to 03:00Z on 20m 14061 Khz to 14065 Khz.

WFTB Autologger is at: https://qrpcontest.com/pigwalk20/

Good luck and we hope to hear from everyone on the air!!

Sprint Statistics for January through September 2024

| DATE | EVENT | LOGS SUBMITTED | TOP SCORE | TOP FLYING PIG |
|---|---|---|---|---|
| 01/21/24 | RFTB | 9 | 119 | WB9HFK - Mark |
| 02/18/24 | RFTB | 6 | 32 | AA2YO - Gene |
| 03/17/24 | RFTB | 22 | 528 | NQ2W - Will |
| 04/21/24 | RFTB | 41 | 2150 | NQ2W - Will |
| 05/19/24 | RFTB | 16 | 410 | KA2KGP - TOM |
| 06/16/24 | RFTB | 22 | 1533 | NQ2W - Will |
| 07/21/24 | RFTB | 18 | 611 | NQ2W - Will |
| 08/19/24 | RFTB | 11 | 442 | NQ2W - Will |
| 09/15/24 | RFTB | 17 | 672 | N2TNN - DEAN |

With 9 RFTB's complete, NQ2W – Will, is in the lead with five top scores!

| | | | | |
|---|---|---|---|---|
| 01/03/24 | WFTB40 | 10 | 27 | WB9HFK - Mark |
| 02/07/24 | WFTB40 | 6 | 22 | WB9HFK - Mark |
| 03/06/24 | WFTB40 | 6 | 17 | AA2YO - Gene |
| 04/03/24 | WFTB40 | 10 | 27 | K9NUD - Steve |
| 05/01/24 | WFTB40 | 7 | 20 | W4NLT - Andy |
| 06/05/24 | WFTB40 | 18 | 48 | KB9BVN - Brian |
| 07/03/24 | WFTB40 | 12 | 50 | KA2KGP - Tom |
| 08/07/24 | WFTB40 | 15 | 46 | WB9HFK - Mark |
| 09/04/24 | WFTB40 | 16 | 50 | WB9HFK - MARK |

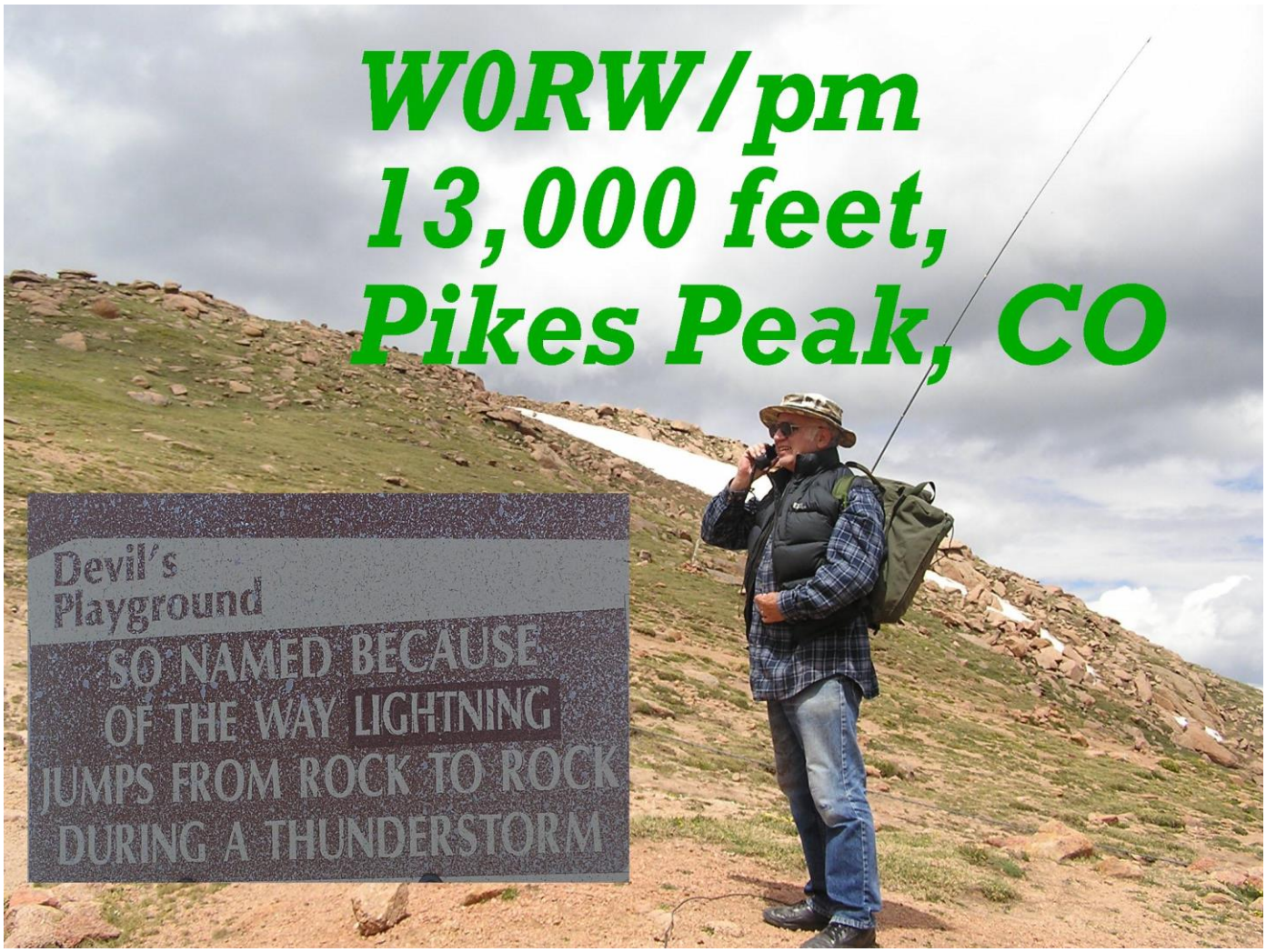
With 9 WFTB40's complete, WB9HFK – Mark, is in the lead with Four top scores!

| | | | | |
|---|---|---|---|---|
| 01/17/24 | WFTB20 | 5 | 6 | N3AZB - Dennis |
| 02/21/24 | WFTB20 | 10 | 15 | AA2YO - Gene |

| | | | | |
|---|---|---|---|---|
| 03/20/24 | WFTB20 | 17 | 38 | WB9HFK - Mark |
| 04/17/24 | WFTB20 | 19 | 35 | AA2YO - Gene |
| 05/15/24 | WFTB20 | 11 | 27 | WB9HFK - Mark |
| 06/19/24 | WFTB20 | 13 | 21 | WB9HFK - Mark |
| 07/17/24 | WFTB20 | 13 | 28 | W4NLT- ANDY |
| 08/21/24 | WFTB20 | 8 | 20 | WB9HFK - Mark |
| 09/18/24 | WFTB20 | 7 | 21 | N2TNN - DEAN |

With 9 WFTB20's complete, WB9HFK-Mark is in the lead with Four top scores!

The top finisher at the end of the year will receive this fabulous hand crafted, laser engraved, coffee coaster! This reward is made of the finest hardwood, and artistic craftsmanship by Jim W0EB. It's still anyone's game!




## High Altitude RF Adventures (Rev. D)

This report is from my observations and experiences of High Altitude Radio operations in Colorado.

The effects of high altitude sickness is more full described at:
https://en.wikipedia.org/wiki/Altitude_sickness

It includes headache, confusion, fatigue, stomach illness, and dizziness.

I get a little light headed at altitude (I am over 80 years old) and when some big winds came up on a recent hike they buffeted me around and I got a little dizzy until they stopped. (That is a sign of altitude sickness).

The effects of headache, confusion, and dizziness that I have seen resulted in the inability to operate the software and menus of newer radios. Confusion can include remembering schedule times and dates, recording call signs and data in a log book, leaving antenna parts, wires and tools behind on a hike.

One effect I saw was a fisherman who locked his keys in his car at 11,000 feet being 100 miles away from help.

Dizziness during walking can lead to having unstable footing and a fall.

Fatigue is one of the easiest ways to recognize sickness. This is determined by your fitness and heart condition (Blood Pressure). The fatigue feeling can be like having 'Cement Boots' on while walking. It may come on you slowly after a few hours at altitude. The other effect is called 'Hitting the Wall'. Your body just stops working.

One of my comrades came from sea level and had several fatigue incidents. One time after riding the COG Railroad to 14,000 feet (Pikes Peak), He got off the train and made it 100 feet across the top of the mountain and had to sit down for 10 minutes to recover. (Walmart now sells small canisters of oxygen for hikers).

The other incident occurred while we were climbing to Devils Head Fire Tower at 9,700 feet. (https://dayhikesneardenver.com/devils-head-fire-tower-lookout-hike/ ), He did well going up the 800 foot climb but 'Hit the Wall' going up the last 100 feet of Fire Tower stairs. He was stopped in his tracks. I recognized the effect and He said his body just could not move any more. He quickly recovered.

Another friend set up a tower at 14,000 feet for a contest. Bad winds came in and blew the tower over. He and his friends had only attached 2 guy wires to the tower. That was muddled thinking.

The best way to recover is to descend to a lower altitude.

If you are visiting the Colorado area, one good way to check your ability to operate at altitude is to climb the Manitou Incline in Manitou Springs, Colorado. If you can make the climb without observing any altitude sickness you can probably successfully climb the 14ers. It is 2744 steps with an altitude gain of 2020 feet. See https://manitousprings.org/where-to-play/manitou-incline/

Not everyone experiences altitude sickness, Younger people don't seem to succumb to it. The Pikes Peak concession workers go up there every day and never have any problems.

**Weather Conditions at Altitude**

The obvious danger in High Altitude Operations is the weather. Almost all hikers start in the early morning to avoid the afternoon thunder storms. The remedy for bad weather is to move to lower elevations slowly (recalling that high elevations cause dizziness and poor footing). Getting back down below tree line is important.

On one early morning hike in Rocky Mountain National Park (Marmot Point) at 12,000 feet, (https://www.summitpost.org/marmot-point/384006 ) I heard a little precipitation static in my headphones (Crackle – Crackle) and a snow squall was blowing through. The snow was just like little ice flakes hitting me in the face, not wet snow. There was no lightning or thunder in the area. Then I felt a few prickly zaps in my shoes and off my handset. Those were electro static discharges!

I quickly got off the ridge line and took the radio off my back and removed the whip until the snow squall blew by. When I put the whip back on the radio, the antenna tuner would not tune the whip. The precipitation static blew my antenna tuner up!

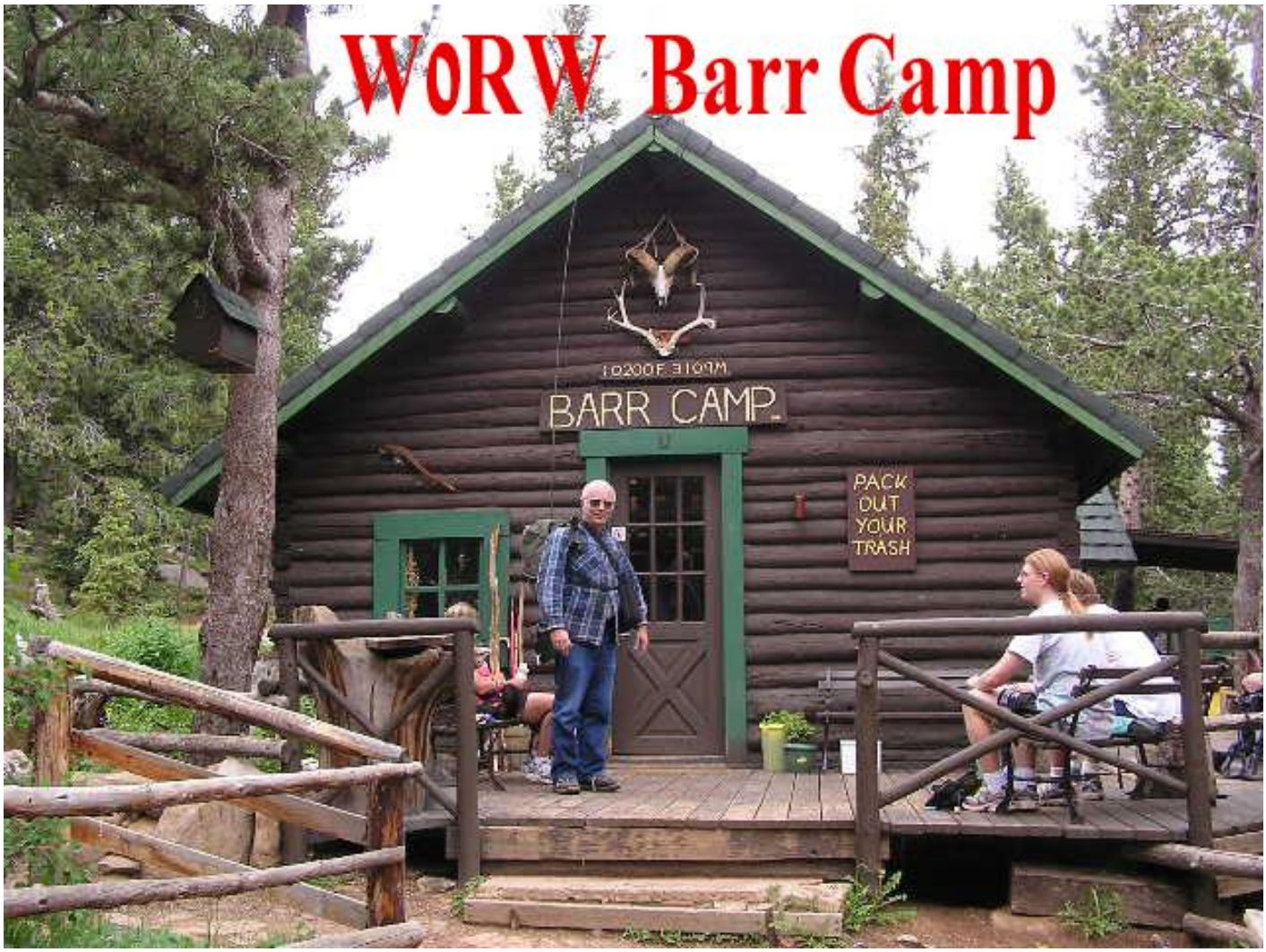
Later in the shop, I checked all the parts that might have been damaged but found no defects. The static had upset the tuners' microprocessor software. This tuner even has a Victorian (type) gas discharge tube (Like a NE-2) across the antenna terminal but that did not save the microprocessor software. I was using my PRC319 Military Backpack Radio. The radio was not damaged but the expensive tuner was never able to be fixed.

Now whenever I am operating at altitude, I use a shorted ¼ wave coax stub as a drag wire counterpoise.

Here is a cool cartoon link about what P-Static sounds like.
https://tinyurl.com/yvb37yh2

Paul w0rw

**Editor's Note:** Paul also sent us another article with pictures from his Field Day 2004 adventure which I include here now!




**Barr Camp** is a wilderness cabin midway on the Barr Trail which goes from Manitou Springs, Colorado, to the top of Pike's Peak. They provide camping space for hikers, cook up Breakfast and Dinners, sell candy and supplies, and have a bunk house.

It is like a mountain oasis, there are picnic tables and a bench swing that is set by the stream to comfort the tired hikers. The COG Railway took me up to the halfway station (Mountain View) and I hiked across the face of the mountain to the Camp.

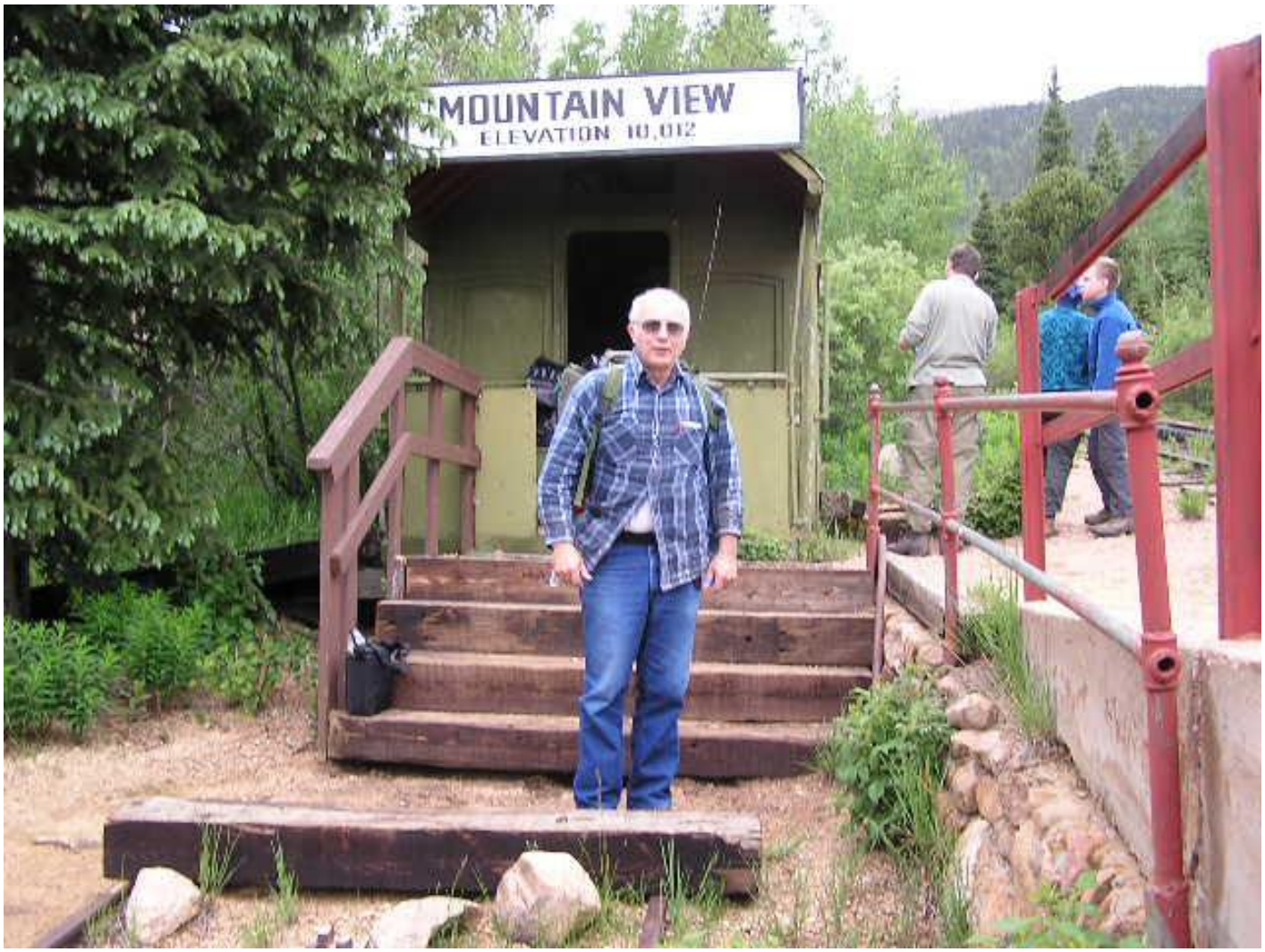
When I arrived every one came by to inspect my Radio operation. I let them talk on the radio to several other hams on VHF.

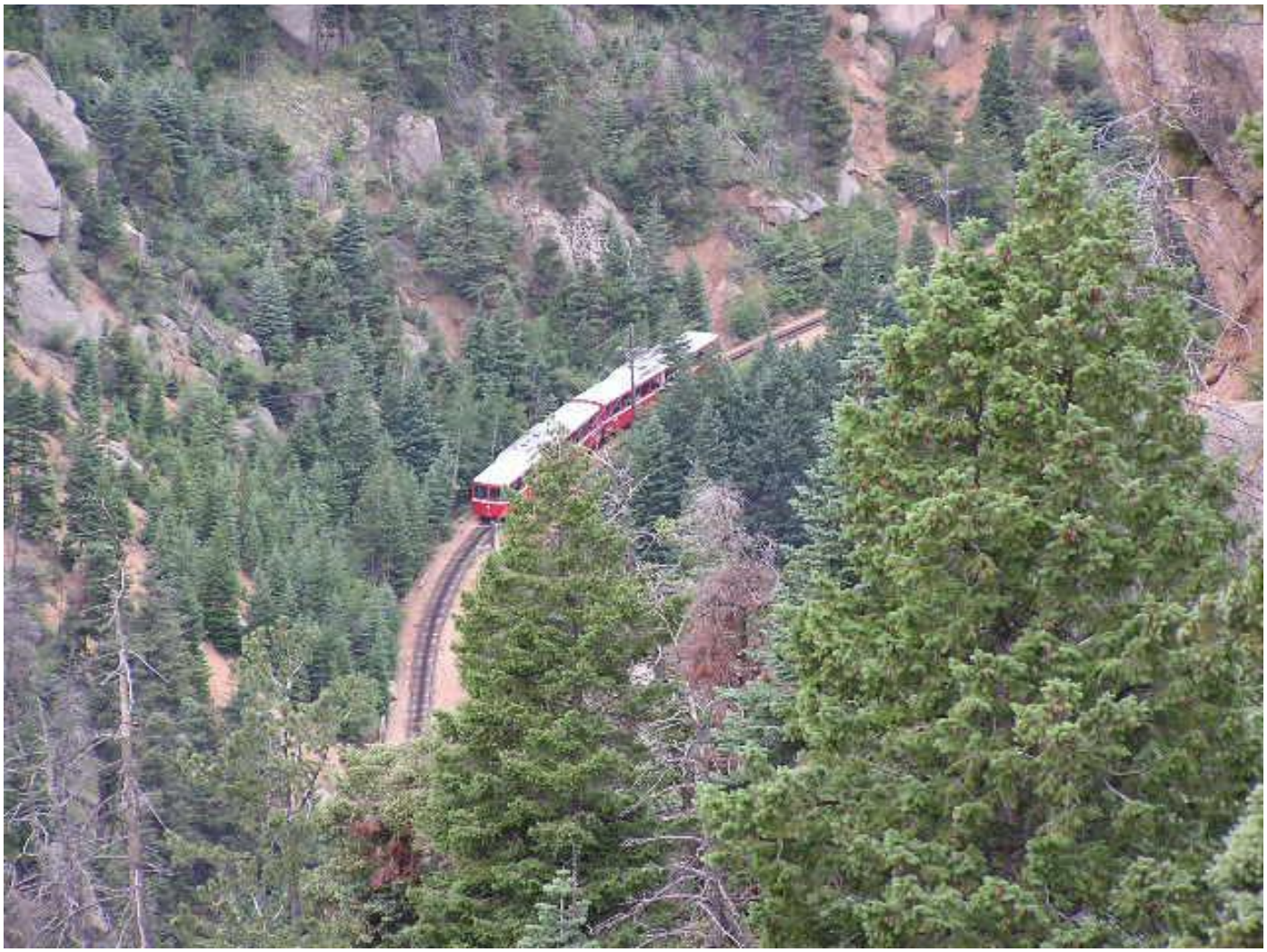
I set up my PRC319 on the picnic table and began working Field Day Stations on 20M SSB using a 10 foot whip. Conditions were good and I worked a lot of stations. There is a Map and Hiking information at the web site: https://barrcamp.com/

**Barr Camp** is approximately 6.5 miles from the trail head in Manitou Springs. Elevation gain is 3,800 feet, and the camp elevation is 10,200 feet (3,109 meters). You can expect a 20 degree temperature difference between the bottom of the trail and Barr Camp. Pikes Peak is an additional 6.5 miles from Barr Camp, and the trail climbs another 3,900 feet to the summit at over 14,000 feet (4,301 meters). Expect another 20 degree change in temperature and extreme weather changes such as high winds, thunderstorms, and snow.

There is no AC power or drinking water at Barr Camp, but there is a stream at the entrance to the camp from which you can treat or filter your own water. There are 2 outhouses also.

Paul w0rw





## It's STILL summer! Act like it!

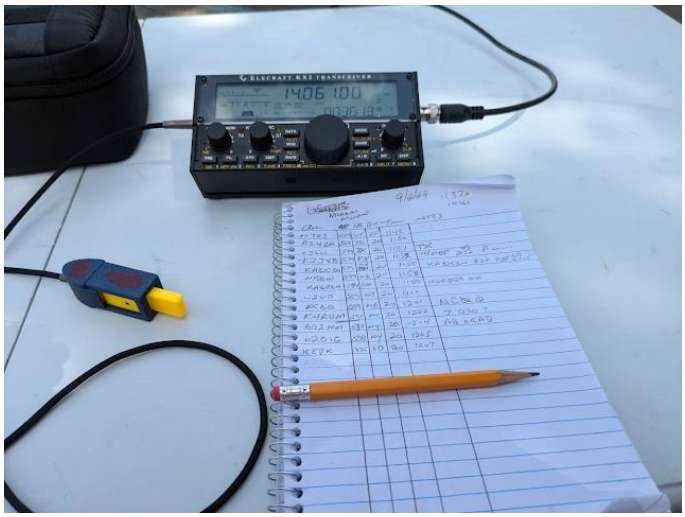

At US-4183 Atterbury Fish and Wildlife Area

Greetings! I didn't make it out in August, we were too busy processing all the goodies my brother-in-law, Tim, grew in his garden. It was a bumper crop of sweet corn, green beans, jalapeño peppers, tomatoes, zucchini, candy onions, and summer squash. Tim is an Iowa farm kid, that came here to Indiana to marry my wife's youngest sister, Rose, over 30 years ago. Last September Rose passed away, leaving a huge hole in our family. To say she was wonderful is the understatement of them all. Time marches on. She is very sorely missed.

This was Labor Day weekend. I was able to go out and do some POTA work on Monday, and since I had today as a vacation day, I was also able to do it again today. Both trips were to Atterbury Fish and Wildlife Area in Johnson County, Central Indiana.

On September 2nd, the band conditions were looking bleak. The Solar Flare Index was 226, Sunspot Number was 200 - GREAT RIGHT? The A index was 16 and the K index was 2...which meant 40m was pretty much useless, and 20m was very quiet and audio signals were really suppressed.

I started out on 14061 kHz on Monday morning at 11:38 AM, I was using my KX-2 and the Eagle One 33 foot vertical attached to my SUV trailer hitch. I was really surprised to have the first 10 in my logbook by Noon. Signals were down in the mud but if I concentrated, I could pull them out. I got a lot of 559 reports, which mean typically quiet but readable.




The temperature was an unusual mid 70's for this time of year, I was setup in the shade at the Mallard Marsh location and had quite a nice view. I Had to move my setup a time or two to stay in the shade.


I wrapped it up at about 12:30PM and packed up. My next stop was at Blue Heron Park in Franklin Indiana. Blue Heron is not a POTA park, it is a city park. My wife and I go there to walk to trails and get some exercise. So, I

decided to stop there and take a hike, of two miles.  It was such a beautiful day.

Here are a few pictures of some of the sights I saw while on my hike. Can you identify any of these?

I know the red berries are BAD for people, so I didn't eat them...or any of the other stuff I saw.  I did get accosted by a gang of geese.  They seemed peaceful until I got closer.

Anyway, I escaped! Walk the two miles and headed home.

On Tuesday I woke up to temperatures in the low 50's, very unlike September in Indiana, I headed back to Atterbury at about 11AM and things were a little different.  First, not as many POTA hunters out there, I think everyone but me was at work.  It took me about an hour to get 10 in the log book.  Today I was using the KX-2 again,  but this time I had the little AX-1 antenna in play.

I managed to work  NY, OK, NJ, AR, FL, WI, NC, CT, and GA all on 20m.  The band conditions were only slightly better than yesterday.  The Solar Flare Index was 238, and the Sunspot Number was down to 133, but the A Index was still high at 8, and the K Index was down to 2.

Ended up with 13 contacts and wrapped it up at 12:30PM.  Another beautiful day in the heartland for sure.

Well that's it for this run, until the next time, 72 es OO and Best DX to all!

de KB9BVN
Brian
FP -57

## 1 Motivation

Weather forecast for Thursday, 26 September 2024, was good. A nice fall morning, sunny with a breeze from the north. A good time for portable radio operations at Heyburn Wildlife Management Area, POTA park US-8124, and the disused picnic area across the lake east of Sheppard Point. RFI there is negligible, unlike at my home QTH that is enveloped in a fog of electronic hash.

## 2 Antenna

For the antenna, Figure 1, I used an end-fed terminated inverted-V supported by a 31 ft Fiberglas mast in a drive-on mast-mount, the plane of the antenna oriented from north to south with the ends belayed to step-on electric fence posts.

*Figure 1: End-Fed Terminated Inverted-V*

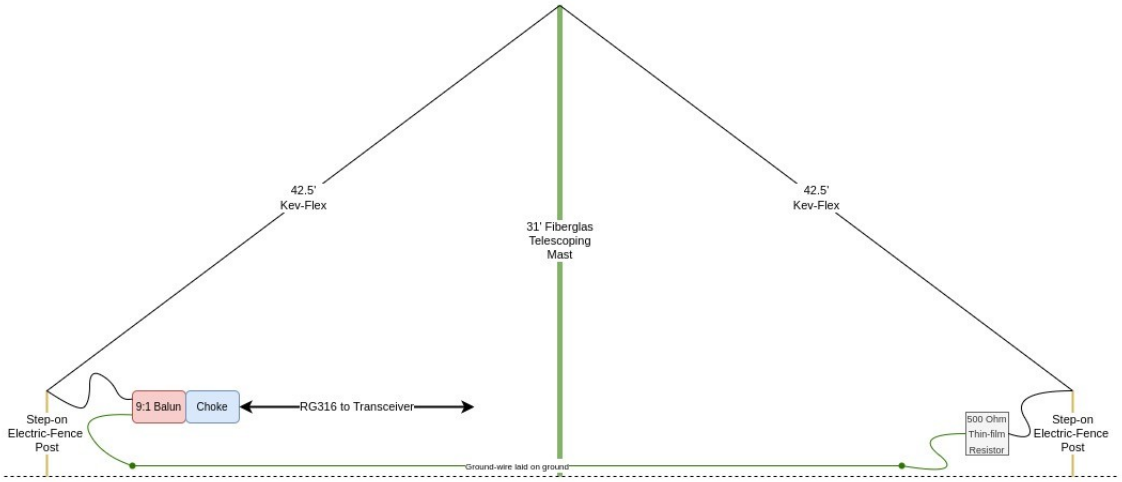
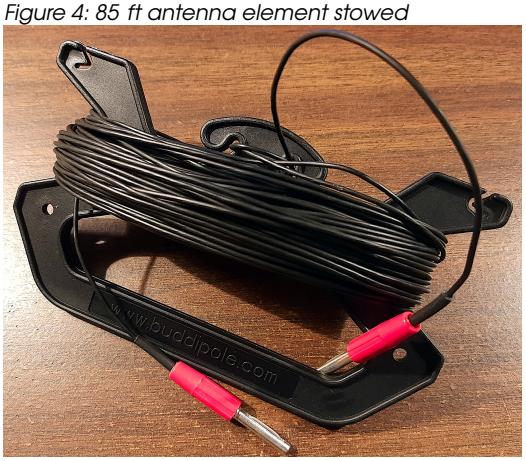



*Figure 2: 9:1 Balun-Choke Assembly*


*Figure 3: 500 Ohm terminating resistor assembly*

*Figure 4: 85 ft antenna element stowed*



Ground-side of the 500 Ω thin-film resistive termination connects to the ground-side of the feed-point 9:1 balun by a wire laid on the ground between them.

Feed point of the antenna connects to the transceiver through 9:1-balun-choke combination as shown in Figure 2. The antenna element is 85 ft (26 m) of Kev-Flex, shown stowed on a kite winder in Figure 4.

Advertised to work like a traveling wave, these antennas eliminate the need for an antenna tuner thereby conferring convenient band and frequency agility on the user. Also, they tend to attenuate RFI from nearby man-made sources. I discovered these antennas while investigating various configurations of random-length wires. Of them all, the end-fed terminated inverted-V is the easiest to assemble and disassemble.

Power absorbed by the termination depends on the SWR at the operating frequency; worst-case published value that I have seen is 30% of the transmitter output power. Figure 3 shows the thin-film 500 Ω resistor termination-assembly that acts as a heat sink allowing the resistor to survive at higher operating powers. At normal QRO power levels of 100W or above, I doubt this is a significant loss of radiated energy. What about QRP levels of 5W or less? Doesn't seem to be that significant either, if my results are anything to write home about.

## 3 Operating

Being a casual operator more interested in low power equipment, the loss of a few hundred milliwatts of RF energy doesn't trouble me. Given the RF noise levels at my home QTH and lack of space or desire to erect permanent antennas, I operate portably using my vehicle as a radio shack, which works well when the weather is blazing hot or freezing cold. So on occasion, I run out somewhere to hunt a few POTA contacts SSB or CW, declare victory and go home for a cup of tea.

Today, as shown in Figure 5, band conditions on 20 m must have been pretty good for the FT-818ND with a LASERBEAM-817 DSP filter recently installed.

*Figure 5: W5AWS 20240926 QSO map for POTA park US-8124*

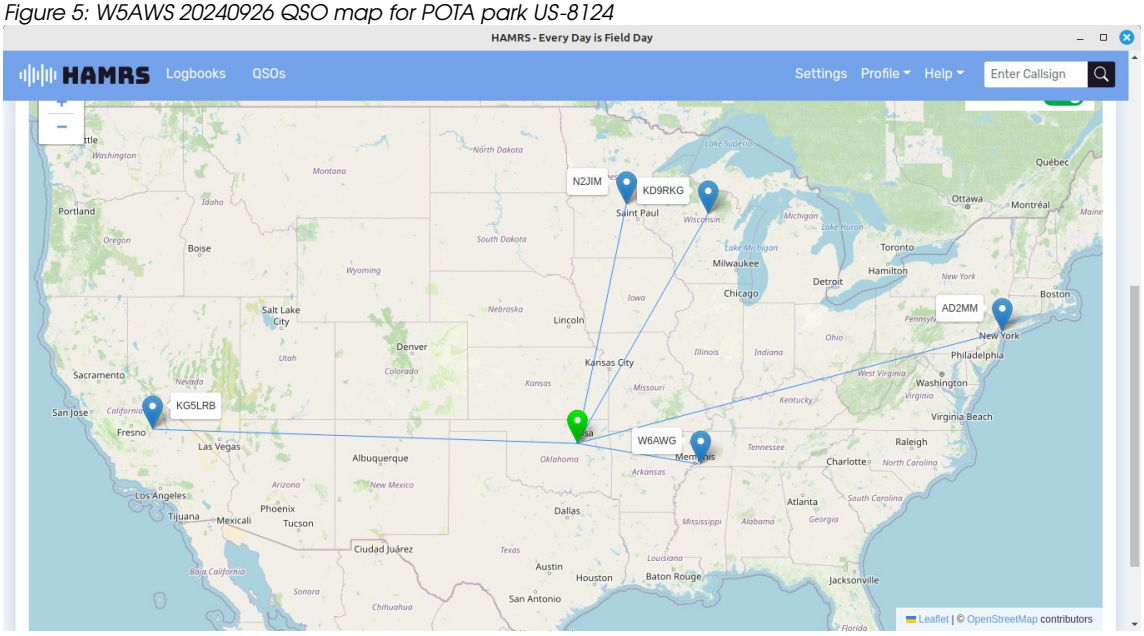


*Figure 6: W5AWS 20240926 log for POTA park US-8124*

Entries 5 | QSO Map | POTA Spots

Call, Name, Park... Clear

| DATE | CALLSIGN | RST ↑ | RST ↓ | STATE | FREQUENCY | BAND | MODE | THEIR PARK |
|---|---|---|---|---|---|---|---|---|
| 16:32 2024-09-26 | AD2MM | 229 | 449 | NY | 18.081 | 17m | CW | US-8081 |
| 16:22 2024-09-26 | KD9RKG | 559 | 599 | WI | 14.0485 | 20m | CW | US-4266 |
| 16:05 2024-09-26 | W6AWG | 339 | 599 | TN | 14.045 | 20m | CW | US-6263 |
| 15:51 2024-09-26 | KG5LRB | 22 | 48 | CA | 14.233 | 20m | SSB | US-0063 |
| 15:46 2024-09-26 | N2JIM | 55 | 56 | MN | 14.245 | 20m | SSB | US-0370 |

QRP SSB phone I like to try. Despite KG5LRB in California feeling like a big stretch with me barely heard above the noise floor on the other side of the Great Divide, we logged our contact after a few slow, spaced phonetic repetitions from me.

QRP CW is a better way to go that would go a lot better were my skills up to copying in the region of 20 wpm. W6AWG felt a doubtful QSO; we exchanged call-signs after which I didn't hear a completion, but I saw later on the POTA site that he had logged me as a contact.

Normally I copy with pencil and paper, not being able to cope with the distraction of milling on a computer keyboard.

Having exercised the FT-818ND, I unlimbered the Penntek TR35 and tried hunting on the 17 m band, succeeding in a making contact with AD2MM despite some QSB; after that it was time to disassemble the station and return home.

## 4 Conclusion

I did scan the ham bands with a RigExpert StickPro analyzer. SWR was around 7:1 on 160 m, 2:1 on 80 m if I remember correctly, and below 2:1 on the other common HF bands, as well as 6 & 2 m. My feeling is that it is always worth seeing what things look like before energizing the antenna.

For a typically casual empiric operation, today would never remotely approach DX communications yet reached the coasts from the interior and, by changing bands, a much closer NVIS contact. All done with less than 5W of radiated RF energy, probably much less. Overall, I find the results impressive, exceeding my expectations.

Though the end-fed terminated inverted-V is convenient, it isn't compact since it requires about 60 ft of horizontal space to deploy. My travel antenna is a Buddistick Pro. Neither of these antennas require any nearby vertical structures for support.

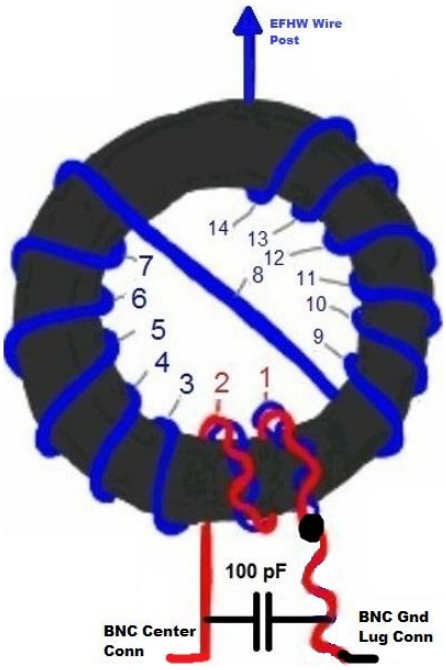
The new LASERBEAM-817 DSP filter from SOTABEAMS that I installed in the FT-818 is a big help. It is useful to be able to hear other signals above and below the tuned frequency and good to exclude them by activating the filter.

“Bacon Bits” EFHW Antenna

After exhausting the contents, consider reuse of those Bacon Bits or really any plastic Spice container. They can serve as a unique small lightweight enclosure for the described 49:1 EFHW antenna transformer that weighs less than 3 oz. My build used two plastic spice containers found at the dollar store.

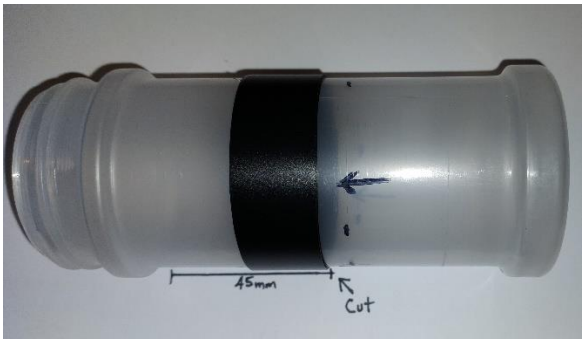
After securing two identically sized spice bottles, the parts for this EFHW antenna were collected out of my spare parts bin, with me already possessing a couple FT114-43 toroids, a 100pF 6KV capacitor, BNC panel mount connectors, nuts, bolts, and lock-washers. The lengths of bolts, nuts, solder lugs, and associated lock washers were not critical, and you may use what you have at your disposal. The enamel wire for the transformer was 18 ga, and sourced via Amazon, which is electrically overkill for this size 49:1 to run QRP power; however, it was chosen because it is stiff, easy to strip back to bare copper, fits into the center pin of the BNC connector, and will allow operation at higher than QRP levels.

Should you have to purchase everything new at full retail, I imagine you’d be out less than a moderate priced dinner.  Please leverage the pictures of parts, winding details, and the step-by-step instructions to net a lightweight antenna sure to radiate your signal.


1) Take two FT-114-43 toroids and superglue them together insuring full alignment around all edges of the toroid.  Prepare the empty clean spice containers by gluing down, with epoxy, any flip-up lid that is part of the screw-on cap. Some spice lids may not have any such flip-up feature. Leave all undisturbed to dry overnight.

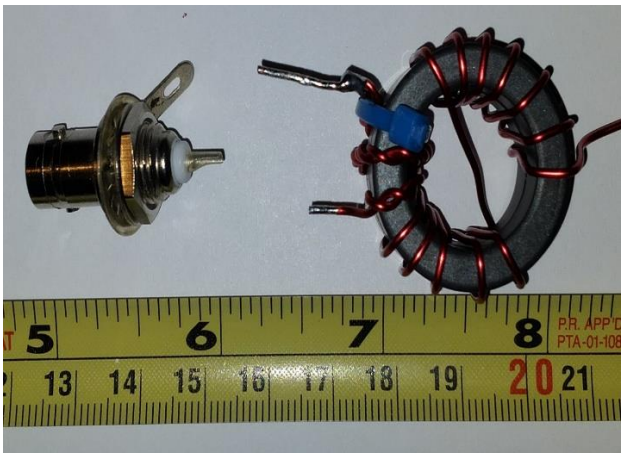
2) Given your particular spice container cap diameter, mark for drilling a panel mount BNC connector and the ground/counterpoise lug of the feedline cap. Notice they offset each other on the feedline end cap, and that they are positioned towards the center sufficiently for the cap to still screw onto the container when transformer is standing upright. I marked the sprinkle container lid I used with red for the BNC, and green for the ground drill points per photo.




3) Drill two holes into the cap leveraging progressively larger drill bits for the larger hole to house the female panel mount BNC connector. The other hole needs drilled to fit whatever size through-bolt which is leveraged for ground/counterpoise/tie-down connection.

4) Shorten the container by measuring 45-50mm from cap edge, when screwed on, to the body of the container, mark it, and then wrap about 5 turns of electrical tape around the body to serve as a guide for a cutting the container almost in half. I cut with a Dremel and cutoff wheel wearing safety glasses throughout the cutting process.

5) You will cut two pieces of 18 ga enamel wire; one being 7" and the other 24" long. Five inches of the wires are twisted tightly together to net the first two turns of a primary. After the two turns are placed on the toroid, I secure with a zip-tie. You wind remainder of core with single wire, known as secondary, as the pictorial and crossing to other side of toroid as your 8$^{th}$ turn. Count turns accurately, and also secure the EFHW single wire with zip-tie to keep things in place.




6) The starting twisted pair of enameled wires is the primary and is connected to ground; however, only one of the twisted wires needs brought away from the toroid to eventually solder to the ground lug on the BNC connector. You'll see in photo, ground is the longer of the wires coming off same side of transformer. I chose to unwind the twisted wires back to the edge of the toroid. Strip 3/8" enamel insulation off both wires right at the juncture of the toroid. Now twist the stripped copper on copper ¾ twist and solder to short the two wires at the edge of toroid. Snip off one of these leads and prepare and tin the single wire as seen in photo with ground lug enamel wire being ¾" long and the center pin enamel center pin enamel wire 1/2" as seen in photo against tape measure.

7) Two pieces of 18 ga insulated stranded wire, each 4" are stripped ¼" on each end, and each end tinned. Securely mount and tighten all metal BNC, lock washers, and solder lug hardware to the first screw-on feedline BNC plastic end cap. Do the same for the ground lug/tie-off bolt on this same plastic end cap. On the solder lug to the ground bolt, you may go ahead and solder a 4" wire to the lug. Position and push the ½" BNC center wire from transformer into the unsoldered BNC socket center pin. Position the ¾" ground lead to the ground lug. They should connect/touch to the BNC connector. Besides transformer ground, the lug on the BNC connector will have one of the 4" wires soldered to it, but don't solder just yet.

8) On a second plastic container cap the same size as the first one, drill and securely mount in center a single 1" wire post bolt with another wire solder lug on the interior of the lid using lock washers and bolts. The order from the interior of the cap should be bolt head, solder lug, flat washer, thru plastic lid, then on outside, flat washer, lock washer, nut, all snugged up tight. You may even consider a drop of lock-tite, as you don't want it loosening over time as you screw on and off the antenna wire repeatedly with a wing-nut to finally install on the outside end of bolt. You may go ahead and solder a 4" wire to the antenna solder lug on the interior of the second plastic cap.

9) Back to the first plastic container cap, double check and re-test fit and bend the two leads of the transformer to line up to the backside of the BNC connector. Before any soldering to BNC occurs, test fit and prepare the 100pF capacitor, by wrapping or pinching one lead to the BNC center conductor and then the other lead to the ground lug that should already have the transformer ground, and the 18ga jumper wire from the ground bolt (green) attached.

10) Next, install the transformer to the BNC connector in vertical fashion. Add a tight little hook in the 3/4" ground lead, and hook it into the BNC ground lug that should also have the unsoldered 4" jumper wire that came over from the counterpoise/ground/tie-down bolt. Note, that you can trim back this 4" wire down to half or less length that just makes connection with the lug, as 4" is more than needed for this little BNC ground jumper to the bolt.

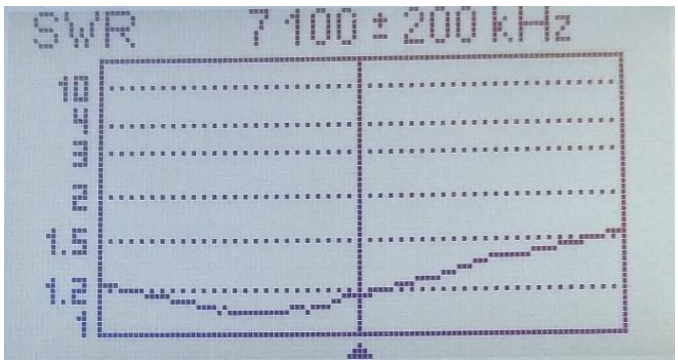
You are now ready to solder up the BNC connector. First, solder the short (1/2") center lead after sliding the tinned wire into the center conductor hole of the BNC connector, insuring also that one end of the capacitor gets soldered at this same point. Second, solder the hooked longer (3/4") transformer ground connection, the shortened jumper wire to the bolt, and the other end of the

capacitor to the ground lug of the BNC connector. Note: this will be tight quarters to solder in. Extra hands may be helpful, and you may wish to put something on edge of plastic cap so as not to melt it while soldering. Final result should look like photo with transformer standing vertical on the cap. Trim off any long leads from capacitor or 18 ga wire jumper.

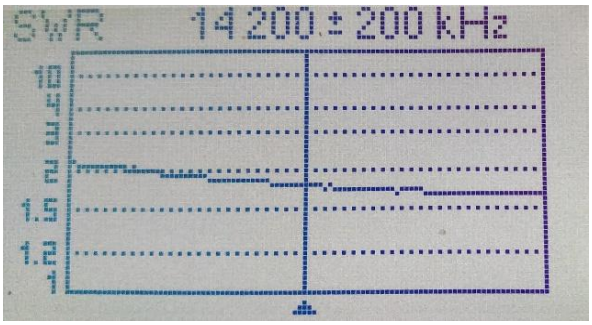
11) Now trim the secondary enameled wire lead at the very end of secondary winding of transformer to about 3/4", and strip and tin 3/8” at the end of that enamel wire, and just let it stick up in the air, as in the picture. This will become a solder to point of the stranded wire, so make sure it is tinned very well.

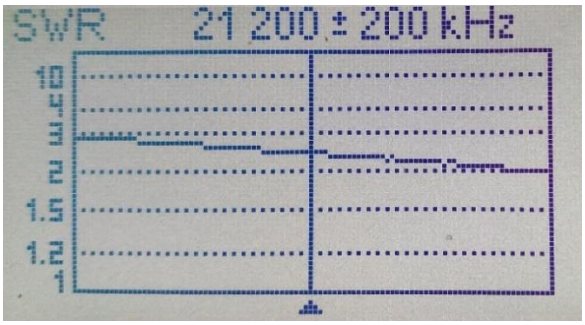
12) Screw the first feedline BNC end cap snuggly onto the plastic container. All of the transformer innards will be covered, with the one end plastic container still open, and the tinned antenna connect wire sticking up at the top of the container. Test fit the antenna wire cap, on the cut end of the container. Uncap, and pay heed to the necessary wire length and space allowing for solder iron into the space and trim back the 4” wire and tin the last 3/8 inch. Solder this stranded wire end to the rigid tinned enamel wire end sticking up.

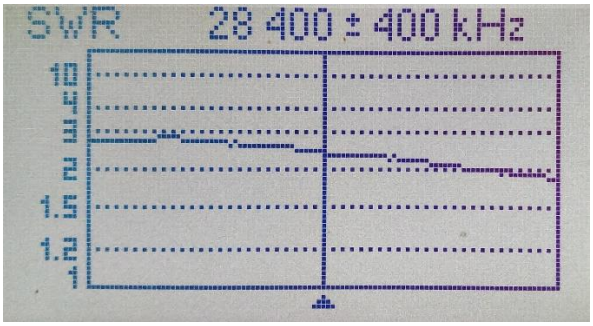
13) With the feedline end cap screwed on already, fit the other cap, which does not screw on and will pressure fit evenly on cut end of container. This antenna wire cap needs secured, so the antenna wire does not pull it off the container. While measuring and fine tuning, I chose to wrap the second lid onto the bottle with black electrical tape. After all my measurements and wire fine tuning, I did silicone glue the 2nd Antenna connect plastic cap to the container and let dry 24 hrs.




After completing the 49:1 transformer above, I started with a #28 Teflon coated stranded wire at 67’, hung between gazebo at 5’ running up into a tree about 25’, which is most likely to mimic my field operations leveraging a 32’ kite pole. I find the Teflon coated wire ideal for durability, low visibility, and ease of unkinking, which I have an uncanny knack for causing. I measured, with an antenna analyzer, and trimmed repeatedly until the radiator was reduced to 64’10”. The SWR measurements for this 40M trimmed wire can be seen in chart above, and which suited my operations in the CW sub-bands. The SWR readings for harmonic band are listed in chart that follows.




| Measured Frequency Range | Final Cut Length | SWR at Resonance |
|---|---|---|
| 7.000-7.150Mhz | 64’ 10” | 1.2:1 – 1.5:1 |
| 14.000-14.300 | 64’ 10” | 2.0:1 – 1.8:1 |
| 21.000-21.400 | 64’ 10” | 3.0:1 – 2.0:1 |
| 28.000-28.800 | 64’ 10” | 2.8:1 – 1.9:1 |

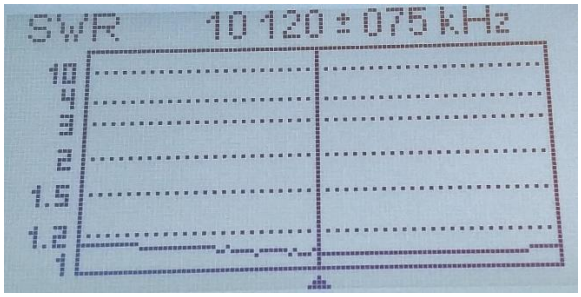
Clearly, no tuner is needed on 40M CW QRP frequencies, and the target harmonic bands should work fine with touch up by any tuner at your disposal. If you are mostly interested in 40M SSB, you will need to trim the antenna wire shorter in 1-2” increments. This 40M half wavelength wire will not resonate or operate efficiently on 80, 30, or 17M, although a good 10:1 tuner will likely put it on 30 or 17M for you.

The high impedance of the EFHW wire will vary with changes in frequency, antenna length, height, orientation and ground conductivity below the antenna. As well a counterpoise may influence to the SWR as well. I never leveraged the counterpoise wire connection in any of my final cuts and measurements of SWR, but the connection is there should you desire to experiment with one, and wish to place an alligator clip with 10’ of wire onto the counterpoise bolt.

Should you desire assured lower SWR readings for the target harmonic bands akin to the 40M band SWR readings, and without need of a tuner, move to individual half-wave wires in place of the 40M wire. An accurately trimmed wire, per band, will attain lower SWR readings (example: 32’5” wire for 20M netted a 1:1 match at resonance)

Individual resonant wires, are also the remedy for efficiently putting the 49:1 transformer onto 60M, 30M, 17M, 12M, or really any HF band you desire. Just calculate, cut, and then trim a half-wave wire to connect to the transformer. Some measured examples follow.

| Measured Frequency Range | Final Cut Length | SWR across Frequency Range |
|---|---|---|
| 10.100-10.150 Mhz | 44’ 3” | 1.2:1 – 1.1:1 |
| 18.068-18.168Mhz | 24’ 3” | 1.3:1 – 1.4:1 |


Thus completes my project for an effective, efficient, and lightweight antenna solution for my field operations which is usually QRP, but might reach to 25W for demonstration purposes. Should you build one, I hope you will be pleased in the ability to extend your low power operations into the field without excessive weight added to your portable backpack.

## Addendum 1

While the antenna was lightweight, and it worked very well on any frequency I cut wires for, the number of individually cut resonant wires, started to impede on the suitability for a quick hike with a small backpack, given each wire was wrapped around six labeled kite string winders.

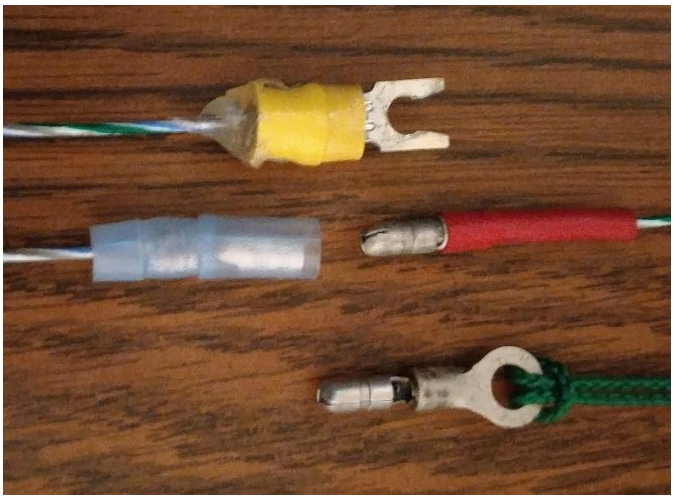
I devised a solution allowing for linking wires to operate independent resonant half-waves for each of my bands of interest (10M, 15M, 17M, 20M, 30M, and 40M) to gain the best SWR match on each band. I ended up with a solution having wires wound on just two kite string winders, and often only take one of the two to the field with me.

Each wire is cut and pruned to resonance beginning with the highest frequency of interest, and then extended by means of electrical butt connectors, and additional wire to net subsequent band resonance. The very first section of wire for band of interest, has a crimp-on U connector to connect up to the antenna bolt on the EFHW transformer. The other end of this first wire is a female butt connector. Note from photo the male connectors had their plastic covers removed for soldering of antenna wire, and some heat shrink tubing added over mating wire to add some protection from any flexing of the 26 ga. wire. An additional couple male connectors have a crimp circular ring soldered on with nylon loop of tie off string.

On one kite winder, I have a linked wire aerial for 20M, 30M, and 40M, and another kite winder with linked wires for 10M, 15M, and 17M. I just plug or unplug the butt connector links to net the desired half-wave length wire to feed to the 49:1 transformer, and then feed the coax to the rig. In practice , any un-used wire linkage, could be tossed on to the counterpoise bolt.

The butt connectors have sufficient strength to hold, if your wire is lightweight, and it is not pulled taunt but just draped down from a tall support. Larger wire probably dictates heavier duty connectors, but even these small ones can be tightened by occasionally squeezing of the female side with a light-duty pair of pliers.

Figure 1.



Top wire in photo, is the connection to 49:1 transformer antenna wire lug. Middle butt connectors show means of wire extension for different bands. Bottom wire shows end of wire connector tied off to string to secure antenna end. Males always plug in to add more wire, or a tie-off string.

| Band | Link Increment | Total Length |
|---|---|---|
| 10M | | 14' 5" |
| 15M | 6' 2" | 20'7" |
| 17M | 3' 10" | 24' 5" |
| 20M | 8' 2" | 32' 7" |
| 30M | 11' 10" | 44' 5" |
| 40M | 20' 5" | 64' 10" |

The above chart conveys the total length of wire per band inclusive of the butt connectors. Your conditions may vary these lengths by 1-4” on each band. Tune and prune for each desired band you desire to operate on.

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# Worked All Piggies Contest (WAP)


**Important Things to Remember about WAP**

**From Dan, N8IE, fpqrp #-6 (President)**

ANY MODE of contact allowed by the FCC or the governing body of your country counts!
This is meant to be a fun and casual way to get our fellow piggies on the air and having fun. This is not a contest and no special award is given for getting a certificate first. Lol
As always, please practice good Amateur Radio Operator conduct!
BACKUP YOUR LOGS! I can't express this enough. We will do our best to keep the database up and running, but as everyone knows crap happens! Should there be a catastrophic failure, you may need to re-enter your contacts. Hopefully that's a worst case scenario.
If you're having problems entering your logs, please contact one of us listed on the web page and we'll get you some help.

The official exchange for the WAP Event is RST, SPC, NAME, FP #.
Both sides of the QSO must be QRP and have a FPQRP number to count for the WAP certificate.
The definition of QRP is as described by the ARRL.

**Log website:** https://fpqrp.org/wap/

**From Jim, W0EB, FP#-616 (Membership Admin)**

To all the FP members, Just to clarify things. Some of you are thinking of this Worked All Piggies "Event" as a contest. IT IS NOT and was never intended to be. Certificates WILL be awarded when an FP member (MUST BE A

MEMBER) achieves various numbers of other members worked (non-member QSO's don't count and please don't log them in the autologger as that just confuses me when trying to determine how many piggies are worked by a given member), but the certificates are NOT numbered so there is absolutely no competition for who gets what certificate when, LOL.

We (the Flying Pigs Club, International) are a casual club, unlike some other clubs offering awards, and we'd like to keep it that way so there is no need for anyone to worry about completing this event before someone else. Work 'em as you hear 'em and use the autlogger (keep a paper log yourself as well for your own records) as the autologger is subject to failure if the server fails during an input. That usually isn't a problem, but CAN happen so be forewarned.

I (as membership Administrator for the club) try to keep my "on-hand" copy of the WAP database current every day so when someone indicates they have worked a certain number of "Piggies" and are eligible for a certificate (of any level), I can confirm that via the autolog results and quickly issue the PDF file of that certificate which the member can print themselves to hang on their wall. It's too expensive and also time consuming for me (or any of the other admins) to print them on paper and mail them out as the Club motto states, "NO DUES, NO RULES---"etc. That means there is no treasury or any other money incoming to do this and we don't have to become a small business or incorporate the club (which is also usually somewhat expensive).

The Worked All Piggies "Event" will be ongoing for as long as there is a Flying Pigs QRP International club and again, is open to ALL members of this club.

# Flying Pigs Email Reflector

To subscribe to the club email reflector, send a message to fpqrp+subscribe@groups.io with the subject “subscribe” or go to the Flying Pigs groups.io page at https://groups.io/g/fpqrp and click on the “Join” button. Don’t forget that all upcoming Flying Pigs related contests are advertised on our email reflector!

**********

**OUR MISSION:**
1: Have Fun.
2: No rules.
3: Be a friendly group which enjoys ham radio and sharing skills with their fellow hams.

**CLUB MEMBERSHIP:**
To join The Flying Pigs QRP Club, visit https://fpqrp.org/join.php

**CLUB DISCORD SERVER:**

https://discord.gg/zW6DhXcq

**CLUB E-MAIL POLICY:**

These are not rules--just common sense. Club email is not moderated, as we are not a stuffy group. You can send off topic messages about most subjects but please keep conversations clean and in good taste. We do like good-natured- ribbing and joking with each other, but we will not tolerate flaming other members or spamming the group. We will remove offenders who abuse our open policy. The word **eBay** is allowed.

**CLUB WEB PAGE:**

The club web page is our forum for sharing projects, and information about us. You are encouraged to submit your ideas and projects to be added to the web page. https://fpqrp.org/

**CONTEST RESOURCES:**

https://qrpcontest.com/
http://qrpspots.com/

**FPQRP OFFICIAL FREQUENCIES:**

| | | | |
|---|---|---|---|
| 160m – 1.814MHz | 80m – 3.564MHz | 40m – 7.044MHz | 30m – 10.110MHz |
| 20m - 14.062MHz | 17m – 18.100MHz | 15m – 21.064MHz | 12m – 24.910MHz |
| 10m – 28.064MHz | 2m Hamfest Frequency – 145.72 Simplex | | |

**PROBLEM REPORTING:**

If you are having problems with email, the web pages, or a fellow club member, please report this to either:
Dan, N8IE at dann8ie@gmail.com
Jim, W0EB at W0EB@cox.net